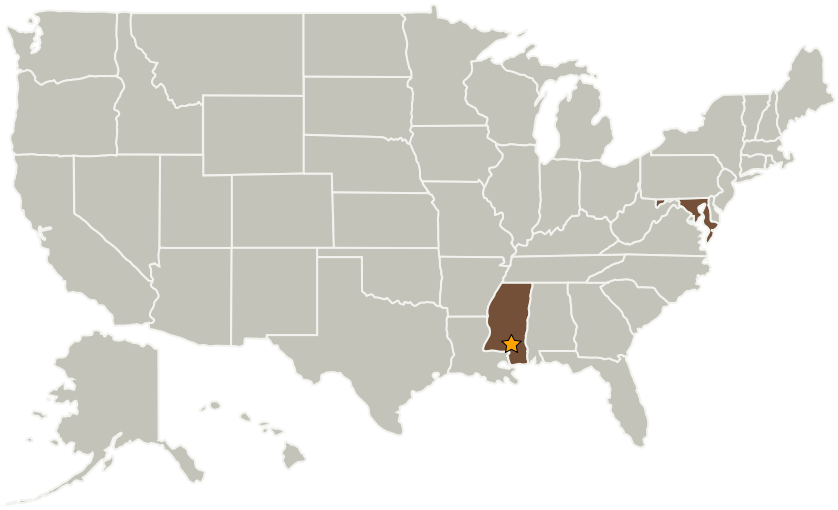
Chesapeake Bay Water Quality Monitoring Using Satellite Imagery, Phase I

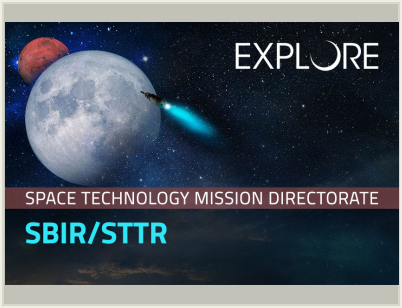
Completed Technology Project (2004 - 2005)

Project Introduction

Work done at Water Resources Center, University of Minnesota has demonstrated the feasibility of performing regional assessment of lake water quality using Landsat imagery. Microtel LLC is proposing to tune algorithms available from this research to process imagery collected by NASA Advanced Land Imager (ALI) to generate water quality mappings (secchi depth transparency and chlorophyll a) of the Chesapeake Bay. Extensive ground truth measurements collected routinely and specifically during satellite overflights by Maryland DNR will be utilized to verify results. This proposal is innovative because it will determine the suitability of NASA earth science data for managers concerned with stewardship of the earth's inland water resources. This proposal is significant because it will develop innovative technology that allow the routine use of NASA Earth science results in automated water quality decision support tools. This proposal addresses solicitation subtopic E4.01 "Innovative Tools and Techniques Supporting the Practical Uses of Earth Science Observations". Accurate and timely water quality maps of the Chesapeake Bay will provide a valuable source of information for water management and policy decision makers.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Stennis Space Center (SSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
Microtel	Supporting Organization	Industry	Greenbelt, Maryland

Primary U.S. Work Locations	
Maryland	Mississippi

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Manager:

Larry G Box

Principal Investigators:

Alan M Ladwig
Bruce D Trout

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.1 Environmental Control & Life Support Systems (ECLSS) and Habitation Systems
    - TX06.1.2 Water Recovery and Management